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<110> Chishti, Athar
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      Liu, David
      Goel, Vikas
      Li, Xuerong
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<130> S1237/7019

<150> US 06/272,930

<151> 2001-03-02

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2020-04-09

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[illegible]

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10037454 033102

Glu Glu Glu Gly Arg Asp Glu Tyr Asp Glu Val Ala Met Pro Val
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Species	Sex	Age	Weight (g)	Length (mm)	Wing (mm)	Tail (mm)	Bill (mm)	Foot (mm)	Claw (mm)
Red-tailed Tropicbird	♂	Ad.	100	110	65	45	15	10	5
Red-tailed Tropicbird	♀	Ad.	90	105	60	40	15	10	5
Red-tailed Tropicbird	♂	Juv.	80	100	55	35	15	10	5
Red-tailed Tropicbird	♀	Juv.	70	95	50	30	15	10	5
Red-tailed Tropicbird	♂	Imm.	60	90	45	25	15	10	5
Red-tailed Tropicbird	♀	Imm.	50	85	40	20	15	10	5
Red-tailed Tropicbird	♂	Ad.	110	115	70	50	15	10	5
Red-tailed Tropicbird	♀	Ad.	105	110	65	45	15	10	5
Red-tailed Tropicbird	♂	Juv.	85	102	58	38	15	10	5
Red-tailed Tropicbird	♀	Juv.	75	98	52	32	15	10	5
Red-tailed Tropicbird	♂	Imm.	65	92	48	28	15	10	5
Red-tailed Tropicbird	♀	Imm.	55	88	42	22	15	10	5

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Ser	Glu	Glu	Asp	Tyr	Asp	Asp	Leu	Gly	Gln	Val	Val	Thr	Gly	Glu
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Ala	Val	Thr	Pro	Ser	Val	Ile	Asp	Asn	Ile	Leu	Ser	Lys	Ile	Glu
	1265					1270					1275			
Asn	Glu	Tyr	Glu	Val	Leu	Tyr	Leu	Lys	Pro	Leu	Ala	Gly	Val	Tyr
	1280					1285					1290			
Arg	Ser	Leu	Lys	Lys	Gln	Leu	Glu	Asn	Asn	Val	Met	Thr	Phe	Asn
	1295					1300					1305			

Val Asn	Val Lys Asp Ile	Leu	Asn Ser Arg Phe	Asn	Lys Arg Glu
1310		1315		1320	
Asn Phe	Lys Asn Val Leu	Glu	Ser Asp Leu Ile	Pro	Tyr Lys Asp
1325		1330		1335	
Leu Thr	Ser Ser Asn Tyr	Val	Val Lys Asp Pro	Tyr	Lys Phe Leu
1340		1345		1350	
Asn Lys	Glu Lys Arg Asp	Lys	Phe Leu Ser Ser	Tyr	Asn Tyr Ile
1355		1360		1365	
Lys Asp	Ser Ile Asp Thr	Asp	Ile Asn Phe Ala	Asn	Asp Val Leu
1370		1375		1380	
Gly Tyr	Tyr Lys Ile Leu	Ser	Glu Lys Tyr Lys	Ser	Asp Leu Asp
1385		1390		1395	
Ser Ile	Lys Lys Tyr Ile	Asn	Asp Lys Gln Gly	Glu	Asn Glu Lys
1400		1405		1410	
Tyr Leu	Pro Phe Leu Asn	Asn	Ile Glu Thr Leu	Tyr	Lys Thr Val
1415		1420		1425	
Asn Asp	Lys Ile Asp Leu	Phe	Val Ile His Leu	Glu	Ala Lys Val
1430		1435		1440	
Leu Asn	Tyr Thr Tyr Glu	Lys	Ser Asn Val Glu	Val	Lys Ile Lys
1445		1450		1455	
Glu Leu	Asn Tyr Leu Lys	Thr	Ile Gln Asp Lys	Leu	Ala Asp Phe
1460		1465		1470	
Lys Lys	Asn Asn Asn Phe	Val	Gly Ile Ala Asp	Leu	Ser Thr Asp
1475		1480		1485	
Tyr Asn	His Asn Asn Leu	Leu	Thr Lys Phe Leu	Ser	Thr Gly Met
1490		1495		1500	
Val Phe	Glu Asn Leu Ala	Lys	Thr Val Leu Ser	Asn	Leu Leu Asp
1505		1510		1515	
Gly Asn	Leu Gln Gly Met	Leu	Asn Ile Ser Gln	His	Gln Cys Val
1520		1525		1530	
Lys Lys	Gln Cys Pro Gln	Asn	Ser Gly Cys Phe	Arg	His Leu Asp
1535		1540		1545	
Glu Arg	Glu Glu Cys Lys	Cys	Leu Leu Asn Tyr	Lys	Gln Glu Gly
1550		1555		1560	
Asp Lys	Cys Val Glu Asn	Pro	Asn Pro Thr Cys	Asn	Glu Asn Asn
1565		1570		1575	
Gly Gly	Cys Asp Ala Asp	Ala	Lys Cys Thr Glu	Glu	Asp Ser Gly
1580		1585		1590	
Ser Asn	Gly Lys Lys Ile	Thr	Cys Glu Cys Thr	Lys	Pro Asp Ser
1595		1600		1605	

1310 1315 1320 1325 1330 1335 1340 1345 1350 1355 1360 1365 1370 1375 1380 1385 1390 1395 1400 1405 1410 1415 1420 1425 1430 1435 1440 1445 1450 1455 1460 1465 1470 1475 1480 1485 1490 1495 1500 1505 1510 1515 1520 1525 1530 1535 1540 1545 1550 1555 1560 1565 1570 1575 1580 1585 1590 1595 1600 1605

Tyr Pro Leu Phe Asp Gly Ile Phe Cys Ser Ser Ser Asn Phe Leu
1610 1615 1620

Gly Ile Ser Phe Leu Leu Ile Leu Met Leu Ile Leu Tyr Ser Phe
1625 1630 1635

Ile

<210> 11

<211> 378

<212> PRT

<213> Plasmodium falciparum

<400> 11

Gly Glu Ala Val Thr Pro Ser Val Ile Asp Asn Ile Leu Ser Lys Ile
1 5 10 15

Glu Asn Glu Tyr Glu Val Leu Tyr Leu Lys Pro Leu Ala Gly Val Tyr
20 25 30

Arg Ser Leu Lys Lys Gln Leu Glu Asn Asn Val Met Thr Phe Asn Val
35 40 45

Asn Val Lys Asp Ile Leu Asn Ser Arg Phe Asn Lys Arg Glu Asn Phe
50 55 60

Lys Asn Val Leu Glu Ser Asp Leu Ile Pro Tyr Lys Asp Leu Thr Ser
65 70 75 80

Ser Asn Tyr Val Val Lys Asp Pro Tyr Lys Phe Leu Asn Lys Glu Lys
85 90 95

Arg Asp Lys Phe Leu Ser Ser Tyr Asn Tyr Ile Lys Asp Ser Ile Asp
100 105 110

Thr Asp Ile Asn Phe Ala Asn Asp Val Leu Gly Tyr Tyr Lys Ile Leu
115 120 125

Ser Glu Lys Tyr Lys Ser Asp Leu Asp Ser Ile Lys Lys Tyr Ile Asn
130 135 140

Asp Lys Gln Gly Glu Asn Glu Lys Tyr Leu Pro Phe Leu Asn Asn Ile
145 150 155 160

Glu Thr Leu Tyr Lys Thr Val Asn Asp Lys Ile Asp Leu Phe Val Ile
165 170 175

His Leu Glu Ala Lys Val Leu Asn Tyr Thr Tyr Glu Lys Ser Asn Val
180 185 190

Glu Val Lys Ile Lys Glu Leu Asn Tyr Leu Lys Thr Ile Gln Asp Lys
195 200 205

Leu Ala Asp Phe Lys Lys Asn Asn Asn Phe Val Gly Ile Ala Asp Leu
210 215 220

Ser Thr Asp Tyr Asn His Asn Asn Leu Leu Thr Lys Phe Leu Ser Thr
225 230 235 240

Met Gln Ile Lys Lys Leu Thr Leu Leu Lys Glu Gln Leu Glu Ser Lys

130					135					140					
Leu	Asn	Ser	Leu	Asn	Asn	Pro	Lys	His	Val	Leu	Gln	Asn	Phe	Ser	Val
145					150					155					160
Phe	Phe	Asn	Lys	Lys	Lys	Glu	Ala	Glu	Ile	Ala	Glu	Thr	Glu	Asn	Thr
				165					170					175	
Leu	Glu	Asn	Thr	Lys	Ile	Leu	Leu	Lys	His	Tyr	Lys	Gly	Leu	Val	Lys
			180					185					190		
Tyr	Tyr	Asn	Gly	Glu	Ser	Ser	Pro	Leu	Lys	Thr	Leu	Ser	Glu	Glu	Ser
		195					200					205			
Ile	Gln	Thr	Glu	Asp	Asn	Tyr	Ala	Ser	Leu	Glu	Asn	Phe	Lys	Val	Leu
	210					215					220				
Ser	Lys	Leu	Glu	Gly	Lys	Leu	Lys	Asp	Asn	Leu	Asn	Leu	Glu	Lys	Lys
225					230					235					240
Lys	Leu	Ser	Tyr	Leu	Ser	Ser	Gly	Leu	His	His	Leu	Ile	Ala	Glu	Leu
				245					250					255	
Lys	Glu	Val	Ile	Lys	Asn	Lys	Asn	Tyr	Thr	Gly	Asn	Ser	Pro	Ser	Glu
			260					265					270		
Asn	Asn	Thr	Asp	Val	Asn	Asn	Ala	Leu	Glu	Ser	Tyr	Lys	Lys	Phe	Leu
		275					280					285			
Pro	Glu	Gly	Thr	Asp	Val	Ala	Thr	Val	Val	Ser	Glu	Ser	Gly	Ser	Asp
	290					295					300				
Thr	Leu	Glu	Gln	Ser	Gln	Pro	Lys	Lys	Pro	Ala	Ser	Thr	His	Val	Gly
305					310					315					320
Ala	Glu	Ser	Asn	Thr	Ile	Thr	Thr	Ser	Gln	Asn	Val	Asp	Asp	Glu	Val
				325					330					335	
Asp	Asp	Val	Ile	Ile	Val	Pro	Ile	Phe	Gly	Glu	Ser	Glu	Glu	Asp	Tyr
			340					345					350		
Asp	Asp	Leu	Gly	Gln	Val	Val	Thr								
		355					360								

<210> 13
 <211> 220
 <212> PRT
 <213> Plasmodium falciparum

<400> 13

Gln	Asp	Lys	Pro	Glu	Val	Ser	Ala	Asn	Asp	Asp	Thr	Ser	His	Ser	Thr
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Asn	Leu	Asn	Asn	Ser	Leu	Lys	Leu	Phe	Glu	Asn	Ile	Leu	Ser	Leu	Gly
			20					25					30		
Lys	Asn	Lys	Asn	Ile	Tyr	Gln	Glu	Leu	Ile	Gly	Gln	Lys	Ser	Ser	Glu
	35						40					45			

Asn	Phe	Tyr	Glu	Lys	Ile	Leu	Lys	Asp	Ser	Asp	Thr	Phe	Tyr	Asn	Glu
50						55					60				
Ser	Phe	Thr	Asn	Phe	Val	Lys	Ser	Lys	Ala	Asp	Asp	Ile	Asn	Ser	Leu
65					70					75					80
Asn	Asp	Glu	Ser	Lys	Arg	Lys	Lys	Leu	Glu	Glu	Asp	Ile	Asn	Lys	Leu
				85					90					95	
Lys	Lys	Thr	Leu	Gln	Leu	Ser	Phe	Asp	Leu	Tyr	Asn	Lys	Tyr	Lys	Leu
			100					105					110		
Lys	Leu	Glu	Arg	Leu	Phe	Asp	Lys	Lys	Lys	Thr	Val	Gly	Lys	Tyr	Lys
		115					120					125			
Met	Gln	Ile	Lys	Lys	Leu	Thr	Leu	Leu	Lys	Glu	Gln	Leu	Glu	Ser	Lys
	130					135					140				
Leu	Asn	Ser	Leu	Asn	Asn	Pro	Lys	His	Val	Leu	Gln	Asn	Phe	Ser	Val
145					150					155					160
Phe	Phe	Asn	Lys	Lys	Lys	Glu	Ala	Glu	Ile	Ala	Glu	Thr	Glu	Asn	Thr
				165					170					175	
Leu	Glu	Asn	Thr	Lys	Ile	Leu	Leu	Lys	His	Tyr	Lys	Gly	Leu	Val	Lys
			180					185					190		
Tyr	Tyr	Asn	Gly	Glu	Ser	Ser	Pro	Leu	Lys	Thr	Leu	Ser	Glu	Glu	Ser
		195					200					205			
Ile	Gln	Thr	Glu	Asp	Asn	Tyr	Ala	Ser	Leu	Glu	Asn				
	210					215					220				

<210> 14
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <221> misc_feature
 <223> Synthetic Oligonucleotide

<400> 14
 ctcgagctca ggataaaccc

20

<210> 15
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc_feature
 <223> Synthetic Oligonucleotide

<400> 15
 gcggccgcac ttgttagt

18

23139 442891


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<210> 16
<211> 23
<212> DNA
<213> Artificial Sequence
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<223> Synthetic Oligonucleotide
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<400> 16
ctcgagctgg agaagcagta act
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23

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<210> 17
<211> 26
<212> DNA
<213> Artificial Sequence
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<220>
<221> misc_feature
<223> Synthetic Oligonucleotide
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<400> 17
gcgggccgcac taaatgaaac tgtata
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26

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<210> 18
<211> 27
<212> DNA
<213> Artificial Sequence
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<220>
<221> misc_feature
<223> Synthetic Oligonucleotide
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<400> 18
ccgggatcca acatttcaca acaccaa
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27

<210>	19
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<212>	DNA
<213>	Artificial Sequence

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<220>
<221> misc_feature
<223> Synthetic Oligonucleotide
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<400> 19
ccggaattca atgaaactgt ataata
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26

$\langle 210 \rangle$	20
$\langle 211 \rangle$	31
$\langle 212 \rangle$	DNA

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<213> Artificial Sequence

<220>

<221> misc_feature

<223> Synthetic Oligonucleotide

<400> 20

ccgggatccg ggatgccctg gctcagtgcc a

31

<210> 21

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Synthetic Oligonucleotide

<400> 21

ccggaattct tagatccgct gctctttgac ctc

33

<210> 22

<211> 42

<212> PRT

<213> Homo sapien

<400> 22

Gly Met Pro Trp Leu Ser Ala Thr Thr Val Arg Ser Val Thr His Ala
1 5 10 15

Asn Ala Leu Thr Val Met Gly Lys Ala Ser Thr Pro Gly Ala Ala Ala
20 25 30

Gln Ile Gln Glu Val Lys Glu Gln Arg Ile
35 40

<210> 23

<211> 51

<212> PRT

<213> Homo sapien

<400> 23

Asp Arg Ile Leu Leu Leu Phe Lys Pro Pro Lys Tyr His Pro Asp Val
1 5 10 15

Pro Tyr Val Lys Arg Val Lys Thr Trp Arg Met His Leu Phe Thr Gly
20 25 30

Ile Gln Ile Ile Cys Leu Ala Val Leu Trp Val Val Lys Ser Thr Pro
35 40 45

Ala Ser Leu
50

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<210> 24
<211> 30
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<213> Artificial Sequence

<220>
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<223> Synthetic Oligonucleotide
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<400> 24
ccgggatcct ccgtcaccca tgccaacgcc 30
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<210>	25
<211>	31
<212>	DNA
<213>	Artificial Sequence

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<220>  
<221> misc_feature  
<223> Synthetic Oligonucleotide
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<400> 25
ccgggatccg accgcatctt gcttctgttc a 31
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<210>	26
<211>	30
<212>	DNA
<213>	Artificial Sequence

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<220>  
<221> misc_feature  
<223> Synthetic Oligonucleotide
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<400> 26
ccggaattct tagatctgga tgcccgatgaa 30

<210>	27
<211>	25
<212>	DNA
<213>	Artificial Sequence

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<220>
<221> misc_feature
<223> Synthetic Oligonucleotide
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<400> 27
ggccatatgg atgatacatc acatt                25
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<210> 28
<211> 26
<212> DNA
<213> Artificial Sequence
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[illegible]

<220>
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<223> Synthetic Oligonucleotide

<400> 28
ggcctcgagg ttttctaaac tggcat

26

<210> 29
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
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<223> Synthetic Oligonucleotide

<400> 29
ggccatatgt ttaaagtatt aagta

25

<210> 30
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Synthetic Oligonucleotide

<400> 30
ggcctcgagt tctcctgtta ctacttg

27

<210> 31
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Synthetic Oligonucleotide

<400> 31
gccgaattcg cagtaactcc ttccg

25

<210> 32
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
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<223> Synthetic Oligonucleotide

<400> 32
gccggatcca atgaaactgt ataata

26

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<210> 33
<211> 334
<212> PRT
<213> Plasmodium falciparum
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<400> 33

Gln Asp Lys Pro Glu Val Ser Ala Asn Asp Asp Thr Ser His Ser Thr
1 5 10 15

Asn Leu Asn Asn Ser Leu Lys Leu Phe Glu Asn Ile Leu Ser Leu Gly
20 25 30

Lys Asn Lys Asn Ile Tyr Gln Glu Leu Ile Gly Gln Lys Ser Ser Glu
35 40 45

Asn Phe Tyr Glu Lys Ile Leu Lys Asp Ser Asp Thr Phe Tyr Asn Glu
50 55 60

Ser Phe Thr Asn Phe Val Lys Ser Lys Ala Asp Asp Ile Asn Ser Leu
65 70 75 80

Asn Asp Glu Ser Lys Arg Lys Lys Leu Glu Glu Asp Ile Asn Lys Leu
85 90 95

Lys Lys Thr Leu Gln Leu Ser Phe Asp Leu Tyr Asn Lys Tyr Lys Leu
100 105 110

Lys Leu Glu Arg Leu Phe Asp Lys Lys Lys Thr Val Gly Lys Tyr Lys
115 120 125

Met Gln Ile Lys Lys Leu Thr Leu Leu Lys Glu Gln Leu Glu Ser Lys
130 135 140

Leu Asn Ser Leu Asn Asn Pro Lys His Val Leu Gln Asn Phe Ser Val
145 150 155 160

Phe Phe Asn Lys Lys Lys Glu Ala Glu Ile Ala Glu Thr Glu Asn Thr
165 170 175

Leu Glu Asn Thr Lys Ile Leu Leu Lys His Tyr Lys Gly Leu Val Lys
180 185 190

Tyr Tyr Asn Gly Glu Ser Ser Pro Leu Lys Thr Leu Ser Glu Glu Ser
195 200 205

Ile Gln Thr Glu Asp Asn Tyr Ala Ser Leu Glu Asn Phe Lys Val Leu
210 215 220

Ser Lys Leu Glu Gly Lys Leu Lys Asp Asn Leu Asn Leu Glu Lys Lys
225 230 235 240

Lys Leu Ser Tyr Leu Ser Ser Gly Leu His His Leu Ile Ala Glu Leu
245 250 255

[illegible]

Lys Glu Val Ile Lys Asn Lys Asn Tyr Thr Gly Asn Ser Pro Ser Glu
260 265 270

Asn Asn Thr Asp Val Asn Asn Ala Leu Glu Ser Tyr Lys Lys Phe Leu
275 280 285

Pro Glu Gly Thr Asp Val Ala Thr Val Val Ser Glu Ser Gly Ser Asp
290 295 300

Thr Leu Glu Gln Ser Gln Pro Lys Lys Pro Ala Ser Thr His Val Gly
305 310 315 320

Ala Glu Ser Asn Thr Ile Thr Thr Ser Gln Asn Val Asp Asp
325 330

<210> 34

<211> 376

<212> PRT

<213> Plasmodium falciparum

<400> 34

Ala Val Thr Pro Ser Val Ile Asp Asn Ile Leu Ser Lys Ile Glu Asn
1 5 10 15

Glu Tyr Glu Val Leu Tyr Leu Lys Pro Leu Ala Gly Val Tyr Arg Ser
20 25 30

Leu Lys Lys Gln Leu Glu Asn Asn Val Met Thr Phe Asn Val Asn Val
35 40 45

Lys Asp Ile Leu Asn Ser Arg Phe Asn Lys Arg Glu Asn Phe Lys Asn
50 55 60

Val Leu Glu Ser Asp Leu Ile Pro Tyr Lys Asp Leu Thr Ser Ser Asn
65 70 75 80

Tyr Val Val Lys Asp Pro Tyr Lys Phe Leu Asn Lys Glu Lys Arg Asp
85 90 95

Lys Phe Leu Ser Ser Tyr Asn Tyr Ile Lys Asp Ser Ile Asp Thr Asp
100 105 110

Ile Asn Phe Ala Asn Asp Val Leu Gly Tyr Tyr Lys Ile Leu Ser Glu
115 120 125

Lys Tyr Lys Ser Asp Leu Asp Ser Ile Lys Lys Tyr Ile Asn Asp Lys
130 135 140

Gln Gly Glu Asn Glu Lys Tyr Leu Pro Phe Leu Asn Asn Ile Glu Thr
145 150 155 160

Leu Tyr Lys Thr Val Asn Asp Lys Ile Asp Leu Phe Val Ile His Leu
165 170 175

Glu Ala Lys Val Leu Asn Tyr Thr Tyr Glu Lys Ser Asn Val Glu Val
180 185 190

Lys Ile Lys Glu Leu Asn Tyr Leu Lys Thr Ile Gln Asp Lys Leu Ala

195				200				205							
Asp	Phe	Lys	Lys	Asn	Asn	Asn	Phe	Val	Gly	Ile	Ala	Asp	Leu	Ser	Thr
	210					215					220				
Asp	Tyr	Asn	His	Asn	Asn	Leu	Leu	Thr	Lys	Phe	Leu	Ser	Thr	Gly	Met
225					230					235					240
Val	Phe	Glu	Asn	Leu	Ala	Lys	Thr	Val	Leu	Ser	Asn	Leu	Leu	Asp	Gly
				245					250					255	
Asn	Leu	Gln	Gly	Met	Leu	Asn	Ile	Ser	Gln	His	Gln	Cys	Val	Lys	Lys
			260					265					270		
Gln	Cys	Pro	Gln	Asn	Ser	Gly	Cys	Phe	Arg	His	Leu	Asp	Glu	Arg	Glu
		275					280					285			
Glu	Cys	Lys	Cys	Leu	Leu	Asn	Tyr	Lys	Gln	Glu	Gly	Asp	Lys	Cys	Val
	290					295					300				
Glu	Asn	Pro	Asn	Pro	Thr	Cys	Asn	Glu	Asn	Asn	Gly	Gly	Cys	Asp	Ala
305					310					315					320
Asp	Ala	Lys	Cys	Thr	Glu	Glu	Asp	Ser	Gly	Ser	Asn	Gly	Lys	Lys	Ile
				325					330					335	
Thr	Cys	Glu	Cys	Thr	Lys	Pro	Asp	Ser	Tyr	Pro	Leu	Phe	Asp	Gly	Ile
			340					345					350		
Phe	Cys	Ser	Ser	Ser	Asn	Phe	Leu	Gly	Ile	Ser	Phe	Leu	Leu	Ile	Leu
		355					360					365			
Met	Leu	Ile	Leu	Tyr	Ser	Phe	Ile								
370						375									

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<210> 35
<211> 114
<212> PRT
<213> Plasmodium falciparum
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<400> 35

Asn 1	Ile	Ser	Gln	His 5	Gln	Cys	Val	Lys	Lys 10	Gln	Cys	Pro	Gln	Asn 15	Ser
Gly	Cys	Phe	Arg 20	His	Leu	Asp	Glu	Arg 25	Glu	Glu	Cys	Lys	Cys 30	Leu	Leu
Asn	Tyr	Lys 35	Gln	Glu	Gly	Asp	Lys 40	Cys	Val	Glu	Asn	Pro 45	Asn	Pro	Thr
Cys	Asn 50	Glu	Asn	Asn	Gly	Gly 55	Cys	Asp	Ala	Asp	Ala 60	Lys	Cys	Thr	Glu
Glu 65	Asp	Ser	Gly	Ser	Asn 70	Gly	Lys	Lys	Ile	Thr 75	Cys	Glu	Cys	Thr	Lys 80
Pro	Asp	Ser	Tyr	Pro 85	Leu	Phe	Asp	Gly	Ile 90	Phe	Cys	Ser	Ser	Ser 95	Asn

Phe Ile

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<400> 36
ccggaattcg ggatgccctg gctcagtgcc a
```

31

```
<400> 37
ccgggatacct tagatccgct gctctttgac etc
```

33

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<210> 38
<211> 1287
<212> DNA
<213> Plasmodium falciparum
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<400>	38						
atgtgttaata	aattgtcaag	gggtagtaat	atgaacaagt	cagaattagg	agataggagt		60
acaaaaatga	aaggaaagat	ttgctcaagt	tacgtaaaat	atatatgttt	aacaatatgt		120
gttataggaa	tgttatgtat	aaaattaagg	gataaatatg	aaggatatgc	tgcttcaggt		180
atacaaaaca	ataatgtata	tttaagaaat	ttatcagagt	tacaaaaggg	aatcaacct		240
tgcttgagac	atacaaacag	aacggataat	tcaaagatga	acaaagtcaa	aaataataat		300
cagacagaaa	ataatgacaa	caaaaaaaaaag	ctaggtaata	aggaagataa	ccagggaaaa		360
aataaaaaata	ataataataa	agaaaaacaa	aatgacatta	ataaaagagg	aacacaaaat		420
accgaaacta	aaaaaagtaa	taaaaaatta	agtcaggact	ataatgatgt	aaataagaaa		480
tttacaaaag	aacaaatgaa	aaatttagtt	aattcattag	atgaaattcc	accccgaaac		540
gatatggaaa	agatatggaa	tcatgccgtt	aaaacagcta	atagtggaac	aagcagaatt		600


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<210> 39
<211> 3576
<212> DNA
<213> Plasmodium falciparum
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<400>	39						
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gaaaattttta	gtgggttcctt	taaatgttta	ttcaaaaaaca	agaggaataa	atataatggt		120
gaaatattaa	agaatgatta	taatacgcta	acagaaagtc	ataatataat	taatagaagg		180
tctagaaatt	taggagcgaa	tccagaatcc	attagtttag	gttatgaatt	aagtgaaaag		240
gatgaaggaa	ataaaaaatga	tctaataaat	agtgtctacag	atgtatcaac	agaattagag		300
aattttaaag	aacgtttatt	tcctgaacta	gaattatata	caaacgatca	aaattcaaga		360
aataatactc	caaattttacg	taagggttct	ttgggatttg	atagttttta	aaaattggaa		420
ctaggaacac	taaatcaatt	tgataaagat	aaaatgatta	atctgaaaga	tgaaaccaat		480
atgaatgaat	ttgaaggatt	tctaggaaga	aattcaatgg	ctagtaatgt	agttacatcc		540
gaattatttg	atgaaccagt	agatgatagt	agtagtacta	ctactagcac	aggtacaaaa		600
ttgcaaaacg	ttccatcgaa	tgataataac	ggtgaacttt	tgaaagatga	acctatagat		660
gattatataa	ataataattc	gaaagttgaa	tcggaagata	attattatgc	acaacagaat		720
atgcaaagtc	agtcgaaaga	taattatgct	tcagaacaaa	atgtagcaga	tcaatcgaca		780
gataattatc	ctacgcaaca	tgatgtacca	gttcaattga	gagacaatta	tgcttcagaa		840
caagagtatt	ttgatagagg	tgaacaattg	aatgacgtaa	gtgcagataa	caatacaagt		900

aataaattga	aagacgaacc	tgtagataac	aatacaagta	ataaattgaa	agacgaacct	960
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85 90 95

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Lys Ser Asn Lys Lys Leu Ser Gln Asp Tyr Asn Asp Val Asn Lys Lys
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Gln Lys Tyr Gly Arg Cys Tyr Glu Glu Arg Pro Asn Arg Phe Gly Ser
210 215 220

Lys Val His Glu Asn Asp Tyr Thr Val Phe Phe Tyr Glu Leu Leu Asp
245 250 255

Glu Gly Phe Gln Asn Leu Ile Asp Phe Leu Phe Asn Lys Tyr Lys Ile
275 280 285

Gly Ser Leu Gly Phe Asp Ser Phe Lys Lys Leu Glu Leu Gly Thr Leu

130				135				140							
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Thr	Thr	Thr 195	Ser	Thr	Gly	Thr	Lys 200	Leu	Gln	Asn	Val	Pro 205	Ser	Asn	Asp
Asn 210	Asn	Gly	Glu	Leu	Leu	Lys 215	Asp	Glu	Pro	Ile	Asp 220	Asp	Tyr	Ile	Asn
Asn 225	Asn	Ser	Lys	Val	Glu 230	Ser	Glu	Asp	Asn	Tyr 235	Tyr	Ala	Gln	Gln	Asn 240
Met	Gln	Ser	Gln	Ser 245	Lys	Asp	Asn	Tyr	Ala 250	Ser	Glu	Gln	Asn	Val 255	Ala
Asp	Gln	Ser 260	Thr	Asp	Asn	Tyr	Pro	Thr 265	Gln	His	Asp	Val 270	Pro	Val	Gln
Leu	Arg	Asp 275	Asn	Tyr	Ala	Ser	Glu 280	Gln	Glu	Tyr	Phe	Asp 285	Arg	Gly	Glu
Gln 290	Leu	Asn	Asp	Val	Ser	Ala 295	Asp	Asn	Asn	Thr	Ser 300	Asn	Lys	Leu	Lys
Asp 305	Glu	Pro	Val	Asp	Asn 310	Asn	Thr	Ser	Asn	Lys 315	Leu	Lys	Asp	Glu	Pro 320
Val	Asp	Asn	Asn	Thr 325	Ser	Asn	Lys	Leu	Lys 330	Asp	Glu	Pro	Val	Asp 335	Asp
Asn	Thr	Ser 340	Asn	Lys	Leu	Lys	Asp	Glu 345	Pro	Val	Asp	Asn	Asn 350	Thr	Ile
Asn	Lys	Leu 355	Lys	Asp	Glu	Pro	Val 360	Asp	Asp	Asn	Thr	Ser 365	Asn	Ile	Leu
Lys 370	Asp	Glu	Pro	Val	Asp	Asp 375	His	Ala	Gly	Lys	His 380	Leu	Lys	Asp	Glu
Pro 385	Val	Asp	Asp	His	Ala 390	Gly	Lys	His	Met	Lys 395	Asp	Glu	Pro	Val	Asp 400
Ile	Asp	Arg	Thr 405	Asn	Ile	Lys	Lys	Gly	Leu 410	Asn	Glu	Gln	His	Val 415	Asn
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Lys	Ile	Glu 435	Lys	Asn	Asn	Lys	Ser 440	Asn	Glu	Gln	Val	Lys 445	Asn	Thr	Ser
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Ser	Gln	Ile	Val 500	Glu	Gln	Arg	Arg	Asn 505	Phe	Asp	Asp	Arg	Asp 510	Gln	Asn
Ile	Met	Asp 515	Arg	Lys	Asn	Phe	Asp 520	Glu	Arg	Asn	Gln	Gln 525	Val	Asn	Asp
Arg	Arg 530	Asn	Phe	Asp	Glu	Arg 535	Asn	Gln	Gln	Val	Asn 540	Asp	Arg	Arg	Asn
Phe 545	Asp	Asp	Arg	Asp	Gln 550	Asn	Val	Met	Asp	Arg 555	Arg	Asn	Phe	Asp	Glu 560
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Gln	Val	Asn	Asp 580	Arg	Arg	Asn	Phe	Asp 585	Asp	Arg	Asp	Gln	Asn 590	Val	Met
Asp	Arg	Arg 595	Asn	Phe	Asp	Glu	Arg 600	Asn	Gln	Gln	Val	Asn 605	Asp	Arg	Arg
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Asp 625	Arg	Asp	Gln	Asn	Val 630	Met	Asp	Arg	Arg	Asn 635	Phe	Asp	Glu	Arg	Asn 640
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Arg	Asn	Phe 675	Asp	Glu	Arg	Asn	Gln 680	Asn	Val	Asn	Asp	Arg 685	Arg	Asn	Phe
Asp	Glu 690	Arg	Asn	Gln	Asn	Val 695	Asn	Asp	Arg	Arg	Asn 700	Phe	Asp	Glu	Arg
Asn 705	Gln	Gln	Val	Asn	Asp 710	Arg	Arg	Asn	Phe	Asp 715	Glu	Arg	Tyr	Gln	Asn 720
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Arg	Arg	Asn	Phe 740	Asp	Glu	Arg	Asn	Gln 745	His	Val	Asn	Glu	Arg 750	Tyr	Gln
Asn	Val	Asn 755	Asp	Arg	Arg	Asn	Phe 760	Asp	Glu	Arg	Asn 765	Gln	Gln	Val	Asn
Asp	Arg	Arg	Asn	Phe	Asp	Glu	Arg	Asn	Gln	His	Val	Asn	Glu	Arg	Arg

Ala His Glu Arg Lys Lys Tyr Thr Lys Met Gln Glu Tyr Leu Met

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Tyr Tyr Ser Gln Tyr Leu Glu Lys Thr Tyr Leu Val Pro Thr Ala		
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Glu Val Val Lys Arg Glu Arg Thr Asp Asn Leu Asp Phe His Gln		
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Phe Leu Arg Lys Gly Ser Cys Glu Lys Arg Glu Phe Leu Tyr Phe		
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Ile Asn Ser Lys Arg Lys Gly Trp Ala Asp Leu Thr Glu Thr Met		
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Lys Gln Leu Pro Pro Lys Val Leu Glu Pro Ile Ile Gln Asn Lys Ile		
35 40 45		
Val Glu Ile Pro Lys Glu Val Tyr Leu Glu Lys Ile Val Glu Val Pro		
50 55 60		
Gln Ile Lys Thr Val Glu Arg Ile Val Glu Gln Ile Arg Pro Val Ile		
65 70 75 80		
Lys Tyr Lys Asn Val Tyr Lys Pro Lys Ile Val Tyr Val Glu Lys Val		
85 90 95		
Lys Asn Val Asp Lys Ile Ile Tyr Gln Glu Lys Ile Val Glu Val Pro		
100 105 110		
Gln Ile Lys Thr Val Glu Lys Ile Val Glu Val Pro Val Tyr Val Asn		
115 120 125		
Arg Glu Arg Ile Ile Thr Val Pro Arg Tyr Met Val Val Glu Lys Val		
130 135 140		
Ile Pro Val Leu Lys Thr Ser Lys Arg Glu Ser Ile Met Glu Val Pro		
145 150 155 160		

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Asn Phe Phe Lys Lys Asp Glu Tyr Val Lys Thr Phe Lys Leu Pro Asn
130 135 140

Tyr Ser Glu Leu Glu Asn Leu Lys Glu Glu Lys Glu Lys Arg Leu Tyr

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Asn	Asn	Leu	Glu	Tyr	Val	Asn	Leu	Leu	Asp	Ile	Arg	Thr	Leu	Glu	Asn
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Lys	Ser	Ile	Tyr	Val	Ser	Ser	Asp	Leu	Leu	Asn	Phe	Leu	Lys	Cys	Tyr
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Ser	Asn	Leu	Asn	Ile	Asn	Leu	Asn	Lys	Val	Pro	Tyr	Asp	Leu	Val	Tyr
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Ser	Phe	Leu	Leu	Asp	Gly	Glu	Leu	Tyr	Leu	Gly	Tyr	Asp	Ile	Ser	Val
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Phe	Ile	Leu	Leu	Val	Lys	Ala	Glu	His	Phe	Glu	Tyr	Cys	Arg	Arg	Ile
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Asp	Asn	Glu	Asn	Ser	Asp	Lys	Lys	Glu	Ser	Phe	Arg	Thr	Lys	Asn	Lys
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Ser	Thr	Ile	Lys	Arg	Ser	Ser	Gln	Ile	Asp	Asp	Glu	Asp	Asn	Leu	Gln
	130					135					140				
Gly	Leu	Leu	Ile	Lys	Glu	Lys	Glu	Asp	Tyr	Leu	Ser	Phe	Leu	Asn	Glu
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Asn	Asn	Glu	Ala	Leu	Lys	Gln	Tyr	Met	Glu	Ser	Glu	Lys	Arg	Gly	Asn
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Pro	Leu	Trp	His	Leu	Asp	Glu	Ser	Lys	Tyr	Met	Asp	Lys	Asp	Trp	Tyr
			180					185					190		
Asp	Glu	Glu	Asp	Ser	Ser	Phe	Ile	Phe	Lys	Pro	Thr	Phe	Asn	Tyr	Leu
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Gly	Lys	Asn	Asn	Asn	Asn	Asn	Asn	Asn	His	Asn	Asn	Asn	Asn	Ala	Phe
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Arg	His	Glu	Ser	Arg	Asn	Leu	Ala	Ile	Gln	Phe	Ser	Gln	Tyr	Glu	Asp
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Tyr	Met	His	Arg	Ile	Ile	Glu	Asp	Arg	Leu	Tyr	Ala	Asn	Ile	Gln	Asn
	290					295					300				
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Ile	Asn	Asn	Asn	Asn	Lys	Asp	Ile	Ile	Ile	Asn	Arg	Ser	Gly	Ile	Ser
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Lys	Ser	Ser	Ser	Phe	Asp	Ile	Ile	Gly	Ser	Ser	Lys	Asn	Ile	Tyr	Glu	
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Gln	Gly	Glu	Asn	Leu	Lys	Asn	Tyr	Cys	Ile	Tyr	His	Asn	Asn	Asn	Phe	
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Glu	Ser	Gly	Phe	Glu	Asn	Tyr	Ile	Leu	Glu	Asn	Lys	Gln	Pro	Leu	Glu	
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Leu	Ile	Glu	Asn	His	Phe	Asp	Ile	Met	Glu	Asn	Ile	Lys	Gly	Met	Tyr	
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Leu	Arg	Glu	Asp	Asn	Ser	Asn	Met	Asn	Glu	Ile	Tyr	Leu	Thr	Arg	Asp	
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Asn	His	Asn	Asn	Asn	Tyr	His	Glu	Asn	Glu	Glu	Asn	Ile	Tyr	Ser	Ile	
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				485					490					495		
Met	Lys	Cys	Lys	Asn	Met	Lys	Gly	Ser	Ile	Ser	Met	Asp	Asn	Asn	Ser	
			500					505					510			
Ser	Asn	Ser	Asn	Ser	Asn	Asn	Thr	His	Phe	Glu	Lys	Thr	Leu	Glu	Ser	
		515					520					525				
Ile	Asn	Pro	Asp	Asp	His	Asn	Ile	Phe	Asn	Ser	Glu	Met	Asp	Ser	Met	
	530					535					540					
Lys	Asn	Glu	Asn	Asn	Asp	Glu	Glu	Glu	Gln	Thr	Ala	Thr	Ser	Ile	Tyr	
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		835					840						845			
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		850				855					860					
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865					870					875					880	
Ile	Glu	Asn	Arg	Cys	Asn	Gln	Asp	Ser	Tyr	Ser	Thr	Asn	Glu	Glu	Pro	
				885					890					895		
Leu	Ser	Asn	His	Ser	Ile	Asn	Asp	Pro	Gly	Lys	Ile	Lys	Asp	Gly	Ile	
			900					905					910			
Met	Tyr	Asp	Gly	Asn	Asp	Leu	Asp	Met	Asn	Gly	Thr	Gln	Glu	His	Ser	
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Gln	Leu	Phe	Ile	Ile	Glu	Ala	Leu	Glu	Trp	Ser	Ser	Phe	Phe	Ser	
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Ile	Val	Cys	Leu	Lys	Thr	Asn	Phe	Asp	Lys	Arg	Thr	Gly	Ala	Leu	Gly
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Glu	Asp	Pro	Lys	Leu	Leu	Lys	Ser	Ser	Asn	Val	Asp	Lys	Met	Lys	Met
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Met	Phe	Lys	Leu	Thr	Pro	Ser	His	Thr	Ser	Tyr	Leu	Met	Thr	Tyr	Ala
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			180					185					190		
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Leu	Thr	Gly	Phe	Leu	Leu	Leu	Ser	Leu	Cys	Gly	Ala	Asn	Glu	Ser	Leu
	210					215					220				

Val	Leu	Ile	Phe	Met	Ser	Ile	Pro	Leu	Cys	Gly	Gly	Ala	Leu	Leu	Tyr
225					230					235					240

Ile Cys Gly Thr Ser Gln Met Thr Lys Arg Val Glu Glu Ser Glu Leu
245 250 255

Gly Ser Ile Ile Gly Leu Asn Thr Ser Leu Phe Tyr Ala Val Thr Ile
260 265 270

Ile Ala Pro Tyr Ile Ala Phe Lys Ser Tyr Ile Ala Leu Gly Leu Gly
275 280 285

Leu Tyr Trp
290

<210> 52

<211> 903

<212> PRT

<213> Plasmodium falciparum

<400> 52

Met Arg Ile Trp Gly Lys Asp Val Phe Ala Gly Phe Val Thr Lys Lys
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Leu Lys Thr Leu Leu Asp Cys Asn Phe Ala Leu Tyr Tyr Asn Phe Lys
20 25 30

Gly Asn Gly Pro Asp Ala Gly Ser Phe Leu Asp Phe Val Asp Glu Pro
35 40 45

Glu Gln Phe Tyr Trp Phe Val Glu His Phe Leu Ser Val Lys Phe Arg
50 55 60

Val Pro Lys His Leu Lys Asp Lys Asn Ile His Asn Phe Thr Pro Cys
65 70 75 80

Leu Asn Arg Ser Trp Val Ser Glu Phe Leu Lys Glu Tyr Glu Glu Pro
85 90 95

Phe Val Asn Pro Val Met Lys Phe Leu Asp Lys Glu Gln Arg Leu Phe
100 105 110

Phe Thr Tyr Asn Phe Gly Asp Val Glu Pro Gln Gly Lys Tyr Thr Tyr
115 120 125

Phe Pro Val Lys Glu Phe His Lys Tyr Cys Ile Leu Pro Pro Leu Ile
130 135 140

Lys Thr Asn Ile Lys Asp Gly Glu Ser Gly Glu Phe Leu Lys Tyr Gln
145 150 155 160

Leu Asn Lys Glu Glu Tyr Lys Val Phe Leu Ser Ser Val Gly Ser Gln
165 170 175

Met Thr Ala Ile Lys Asn Leu Tyr Ser Thr Val Glu Asp Glu Gln Arg
180 185 190

Lys Gln Leu Leu Lys Val Ile Ile Glu Asn Glu Ser Thr Asn Asp Ile
195 200 205

[illegible]

Ser	Val	Gln	Cys	Pro	Thr	Tyr	Asn	Ile	Lys	Leu	His	Tyr	Thr	Lys	Glu
210						215					220				
Cys	Ala	Asn	Ser	Asn	Asn	Ile	Leu	Lys	Cys	Ile	Asp	Glu	Phe	Leu	Arg
225					230					235					240
Lys	Thr	Cys	Glu	Lys	Lys	Thr	Glu	Ser	Lys	His	Pro	Ser	Ala	Asp	Leu
				245					250					255	
Cys	Glu	His	Leu	Gln	Phe	Leu	Phe	Glu	Ser	Leu	Lys	Asn	Pro	Tyr	Leu
			260					265					270		
Asp	Asn	Phe	Lys	Lys	Phe	Met	Thr	Asn	Ser	Asp	Phe	Thr	Leu	Ile	Lys
		275					280					285			
Pro	Gln	Ser	Val	Trp	Asn	Val	Pro	Ile	Phe	Asp	Ile	Tyr	Lys	Pro	Lys
	290					295					300				
Asn	Tyr	Leu	Asp	Ser	Val	Gln	Asn	Leu	Asp	Thr	Glu	Cys	Phe	Lys	Lys
305					310					315					320
Leu	Asn	Ser	Lys	Asn	Leu	Ile	Phe	Leu	Ser	Phe	His	Asp	Asp	Ile	Pro
				325					330					335	
Asn	Asn	Pro	Tyr	Tyr	Asn	Val	Glu	Leu	Gln	Glu	Ile	Val	Lys	Leu	Ser
			340					345					350		
Thr	Tyr	Thr	Tyr	Ser	Ile	Phe	Asp	Lys	Leu	Tyr	Asn	Phe	Phe	Phe	Val
		355					360					365			
Phe	Lys	Lys	Ser	Gly	Ala	Pro	Ile	Ser	Pro	Val	Ser	Val	Lys	Glu	Leu
	370					375					380				
Ser	His	Asn	Ile	Thr	Asp	Phe	Ser	Phe	Lys	Glu	Asp	Asn	Ser	Glu	Ile
385					390					395					400
Gln	Cys	Gln	Asn	Val	Arg	Lys	Ser	Leu	Asp	Leu	Glu	Val	Asp	Val	Glu
				405					410					415	
Thr	Met	Lys	Gly	Ile	Ala	Ala	Glu	Lys	Leu	Cys	Lys	Ile	Ile	Glu	Lys
			420					425					430		
Phe	Ile	Leu	Thr	Lys	Asp	Asp	Ala	Ser	Lys	Pro	Glu	Lys	Ser	Asp	Ile
		435					440					445			
His	Arg	Gly	Phe	Arg	Ile	Leu	Cys	Ile	Leu	Ile	Ser	Thr	His	Val	Glu
	450					455					460				
Ala	Tyr	Asn	Ile	Val	Arg	Gln	Leu	Leu	Asn	Met	Glu	Ser	Met	Ile	Ser
465					470					475					480
Leu	Thr	Arg	Tyr	Thr	Ser	Leu	Tyr	Ile	His	Lys	Phe	Phe	Lys	Ser	Val
				485					490					495	
Thr	Leu	Leu	Lys	Gly	Asn	Phe	Leu	Tyr	Lys	Asn	Asn	Lys	Ala	Ile	Arg
			500					505					510		
Tyr	Ser	Arg	Ala	Cys	Ser	Lys	Ala	Ser	Leu	His	Val	Pro	Ser	Val	Leu
		515					520					525			

Tyr	Arg	Arg	Asn	Ile	Tyr	Ile	Pro	Glu	Thr	Phe	Leu	Ser	Leu	Tyr	Leu
530						535					540				
Gly	Leu	Ser	Asn	Leu	Val	Ser	Ser	Asn	Pro	Ser	Ser	Pro	Phe	Phe	Glu
545					550					555					560
Tyr	Ala	Ile	Ile	Glu	Phe	Leu	Val	Thr	Tyr	Tyr	Asn	Lys	Gly	Ser	Glu
				565					570					575	
Lys	Phe	Val	Leu	Tyr	Phe	Ile	Ser	Ile	Ile	Ser	Val	Leu	Tyr	Ile	Asn
			580					585					590		
Glu	Tyr	Tyr	Tyr	Glu	Gln	Leu	Ser	Cys	Phe	Tyr	Pro	Lys	Glu	Phe	Glu
		595					600					605			
Leu	Ile	Lys	Ser	Arg	Met	Ile	His	Pro	Asn	Ile	Val	Asp	Arg	Ile	Leu
610						615					620				
Lys	Gly	Ile	Asp	Asn	Leu	Met	Lys	Ser	Thr	Arg	Tyr	Asp	Lys	Met	Arg
625					630					635					640
Thr	Met	Tyr	Leu	Asp	Phe	Glu	Ser	Ser	Asp	Ile	Phe	Ser	Arg	Glu	Lys
				645					650					655	
Val	Phe	Thr	Ala	Leu	Tyr	Asn	Phe	Asp	Ser	Phe	Ile	Lys	Thr	Asn	Glu
			660					665					670		
Gln	Leu	Lys	Lys	Lys	Asn	Leu	Glu	Glu	Ile	Ser	Glu	Ile	Pro	Val	Gln
		675					680					685			
Leu	Glu	Thr	Ser	Asn	Asp	Gly	Ile	Gly	Tyr	Arg	Lys	Gln	Asp	Val	Leu
690						695					700				
Tyr	Glu	Thr	Asp	Lys	Pro	Gln	Thr	Met	Asp	Glu	Ala	Ser	Tyr	Glu	Glu
705					710					715					720
Thr	Val	Asp	Glu	Asp	Ala	His	His	Val	Asn	Glu	Lys	Gln	His	Ser	Ala
				725					730					735	
His	Phe	Leu	Asp	Ala	Ile	Ala	Glu	Lys	Asp	Ile	Leu	Glu	Glu	Lys	Thr
			740					745				750			
Lys	Asp	Gln	Asp	Leu	Glu	Ile	Glu	Leu	Tyr	Lys	Tyr	Met	Gly	Pro	Leu
		755					760					765			
Lys	Glu	Gln	Ser	Lys	Ser	Thr	Ser	Ala	Ala	Ser	Thr	Ser	Asp	Glu	Ile
	770					775					780				
Ser	Gly	Ser	Glu	Gly	Pro	Ser	Thr	Glu	Ser	Thr	Ser	Thr	Gly	Asn	Gln
785					790					795					800
Gly	Glu	Asp	Lys	Thr	Thr	Asp	Asn	Thr	Tyr	Lys	Glu	Met	Glu	Glu	Leu
				805					810					815	
Glu	Glu	Ala	Glu	Gly	Thr	Ser	Asn	Leu	Lys	Lys	Gly	Leu	Glu	Phe	Tyr
			820					825					830		
Lys	Ser	Ser	Leu	Lys	Leu	Asp	Gln	Leu	Asp	Lys	Glu	Lys	Pro	Lys	Lys
		835					840					845			

[The page contains faint, illegible handwritten notes.]

Lys Lys Ser Lys Arg Lys Lys Lys Arg Asp Ser Ser Ser Asp Arg Ile
850 855 860

Leu Leu Glu Glu Ser Lys Thr Phe Thr Ser Glu Asn Glu Leu Met Arg
865 870 875 880

Lys Lys Lys Lys Lys Lys Lys Lys Lys Asn Asn Asn Glu Ile Lys Asn
885 890 895

Ile Arg Ile Tyr Tyr Asn Leu
900

<210> 53

<211> 743

<212> PRT

<213> Plasmodium falciparum

<400> 53

Met Met Asn Met Lys Ile Val Leu Phe Ser Leu Leu Leu Phe Val Ile
1 5 10 15

Arg Trp Asn Ile Ile Ser Cys Asn Lys Asn Asp Lys Asn Gln Gly Val
20 25 30

Asp Met Asn Val Leu Asn Asn Tyr Glu Asn Leu Phe Lys Phe Val Lys
35 40 45

Cys Glu Tyr Cys Asn Glu His Thr Tyr Val Lys Gly Lys Lys Ala Pro
50 55 60

Ser Asp Pro Gln Cys Ala Asp Ile Lys Glu Glu Cys Lys Glu Leu Leu
65 70 75 80

Lys Glu Lys Gln Tyr Thr Asp Ser Val Thr Tyr Leu Met Asp Gly Phe
85 90 95

Lys Ser Ala Asn Asn Ser Ala Asn Asn Gly Lys Lys Asn Asn Ala Glu
100 105 110

Glu Met Lys Asn Leu Val Asn Phe Leu Gln Ser His Lys Lys Leu Ile
115 120 125

Lys Ala Leu Lys Lys Asn Ile Glu Ser Ile Gln Asn Lys Lys His Leu
130 135 140

Ile Tyr Lys Asn Lys Ser Tyr Asn Pro Leu Leu Leu Ser Cys Val Lys
145 150 155 160

Lys Met Asn Met Leu Lys Glu Asn Val Asp Tyr Ile Gln Lys Asn Gln
165 170 175

Asn Leu Phe Lys Glu Leu Met Asn Gln Lys Ala Thr Tyr Ser Phe Val
180 185 190

Asn Thr Lys Lys Lys Ile Ile Ser Leu Lys Ser Gln Gly His Lys Lys
195 200 205

Glu Thr Ser Gln Asn Gln Asn Glu Asn Asn Asp Asn Gln Lys Tyr Gln

210				215				220							
Glu 225	Val	Asn	Asp	Glu	Asp 230	Asp	Val	Asn	Asp	Glu 235	Glu	Asp	Thr	Asn	Asp 240
Asp	Glu	Asp	Thr	Asn 245	Asp	Glu	Glu	Asp	Thr 250	Asn	Asp	Asp	Glu	Asp 255	Thr
Asn	Asp	Asp	Glu 260	Asp	Thr	Asn	Asp	Glu 265	Glu	Asp	Thr	Asn	Asp 270	Glu	Glu
Asp	His	Glu 275	Asn	Asn	Asn	Ala	Thr 280	Ala	Tyr	Glu	Leu	Gly 285	Ile	Val	Pro
Val	Asn 290	Asp	Val	Leu	Asn	Val 295	Asn	Met	Lys	Asn	Met 300	Ile	Thr	Gly	Asn
Asn 305	Phe	Met	Asp	Val	Val 310	Lys	Asn	Thr	Leu	Ala 315	Gln	Ser	Gly	Gly	Leu 320
Gly	Ser	Asn	Asp	Leu 325	Ile	Asn	Phe	Leu	Asn 330	Gln	Gly	Lys	Glu	Ile 335	Gly
Glu	Asn	Leu	Leu 340	Asn	Ile	Thr	Lys	Met 345	Asn	Leu	Gly	Asp	Lys 350	Asn	Asn
Leu	Glu	Ser 355	Phe	Pro	Leu	Asp	Glu 360	Leu	Asn	Met	Leu	Lys 365	Asp	Asn	Leu
Ile	Asn 370	Tyr	Glu	Phe	Ile	Leu 375	Asp	Asn	Leu	Lys	Thr 380	Ser	Val	Leu	Asn
Lys 385	Leu	Lys	Asp	Leu	Leu 390	Leu	Arg	Leu	Leu	Tyr 395	Lys	Ala	Tyr	Val	Ser 400
Tyr	Lys	Lys	Arg	Lys 405	Ala	Gln	Glu	Lys	Gly 410	Leu	Pro	Glu	Pro	Thr 415	Val
Thr	Asn	Glu	Glu 420	Tyr	Val	Glu	Glu	Leu 425	Lys	Lys	Gly	Ile	Leu 430	Asp	Met
Gly	Ile	Lys 435	Leu	Leu	Phe	Ser	Lys 440	Val	Lys	Ser	Leu	Leu 445	Lys	Lys	Leu
Lys	Asn 450	Lys	Ile	Phe	Pro	Lys 455	Lys	Lys	Glu	Asp	Asn 460	Gln	Ala	Val	Asp
Thr 465	Lys	Ser	Met	Glu	Glu 470	Pro	Lys	Val	Lys	Ala 475	Gln	Pro	Ala	Leu	Arg 480
Gly	Val	Glu	Pro	Thr 485	Glu	Asp	Ser	Asn	Ile 490	Met	Asn	Ser	Ile	Asn 495	Asn
Val	Met	Asp	Glu	Ile	Asp	Phe	Phe	Glu 505	Lys	Glu	Leu	Ile	Glu 510	Asn	Asn
Asn	Thr	Pro 515	Asn	Val	Val	Pro	Pro 520	Thr	Gln	Ser	Lys	Lys 525	Lys	Asn	Lys
Asn	Glu	Thr	Val	Ser	Gly	Met	Asp	Glu	Asn	Phe	Asp	Asn	His	Pro	Glu

530	535	540
Asn Tyr Phe Lys Glu Glu Tyr Tyr Tyr Asp Glu Asn Asp Asp Met Glu 545 550 555 560		
Val Lys Val Lys Lys Ile Gly Val Thr Leu Lys Lys Phe Glu Pro Leu 565 570 575		
Lys Asn Gly Asn Val Ser Glu Thr Ile Lys Leu Ile His Leu Gly Asn 580 585 590		
Lys Asp Lys Lys His Ile Glu Ala Ile Asn Asn Asp Ile Gln Ile Ile 595 600 605		
Lys Gln Glu Leu Gln Ala Ile Tyr Asn Glu Leu Met Asn Tyr Thr Asn 610 615 620		
Gly Asn Lys Asn Ile Gln Gln Ile Phe Gln Gln Asn Ile Leu Glu Asn 625 630 635 640		
Asp Val Leu Asn Gln Glu Thr Glu Glu Glu Met Glu Lys Gln Val Glu 645 650 655		
Ala Ile Thr Lys Gln Ile Glu Ala Glu Val Asp Ala Leu Ala Pro Lys 660 665 670		
Asn Lys Glu Glu Glu Glu Lys Glu Lys Glu Lys Glu Glu Lys Glu Lys 675 680 685		
Glu Glu Lys Glu Lys Glu Lys Glu Glu Lys Glu Lys Glu Glu Lys Glu 690 695 700		
Lys Glu Glu Lys Glu Lys Glu Glu Lys Glu Glu Glu Lys Lys Glu Lys 705 710 715 720		
Glu Glu Glu Gln Glu Glu Glu Glu Glu Glu Glu Ile Val Pro Glu Asn 725 730 735		
Leu Thr Thr Glu Glu Ser Lys 740		

<210> 54
 <211> 1137
 <212> DNA
 <213> Plasmodium falciparum

<400> 54
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 gaggttttat atttaaaacc ttttagcaggt gtttatagaa gtttaaaaaa acaattagaa 120
 aataacgtta tgacatttaa tgttaatggt aaggatattt taaattcacg atttaataaa 180
 cgtgaaaatt tcaaaaatgt tttagaatca gatttaattc catataaaga tttaacatca 240
 agtaattatg ttgtcaaaga tccatataaa tttcttaata aagaaaaaag agataaattc 300
 ttaagcagtt ataattatat taaggattca atagatacgg atataaattt tgcaaatgat 360
 gttcttggat attataaaat attatccgaa aaatataaat cagatttaga ttcaattaa 420

```
<210> 55
<211> 1080
<212> DNA
<213> Plasmodium falciparum
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<400>	55						
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agtttaaaat	tatttgaaaa	catattgagt	cttggaaaaa	acaaaaatat	ataccaagaa		120
ttaataggtc	aaaaaagtag	tgaaaacttt	tatgaaaaga	tattaaaaga	tagtgataca		180
ttttataatg	aatctttttac	aaatttttgta	aaatctaaag	ctgatgatat	taattcattg		240
aatgatgaat	caaaaaggaa	gaaattagaa	gaagatatta	ataaattaaa	aaaaacttta		300
cagttatcat	ttgattttata	taataaatat	aaattaaaaat	tagaaagatt	atttgataaa		360
aagaaaacag	ttggtaaata	taaaatgcaa	attaaaaaac	ttacttttatt	aaaagaacaa		420
ttagaatcaa	aattgaattc	acttaataac	caaagcatg	tattacaaaa	cttttctgtt		480
ttctttaaca	aaaaaaaaaga	agctgaaata	gcagaaactg	aaaacacatt	agaaaacaca		540
aaaaatattat	tgaaacatta	taaaggactt	gttaaataatt	ataatggtga	atcatctcca		600
ttaaaaactt	taagtgaaga	atcaattcaa	acagaagata	attatgccag	tttagaaaac		660
tttaaagtat	taagtaaatt	agaaggaaaa	ttaaaggata	atttaaattt	agaaaagaaa		720
aaattatcat	acttatcaag	tggattacat	catttaattg	ctgaattaaa	agaagtaata		780
aaaaataaaa	attatacagg	taattctcca	agtgaaaata	atacgggatgt	taacaatgca		840

ttagaatctt	acaaaaaatt	tctcccagaa	ggaacagatg	ttgcaacagt	tgtaagttaa	900
agtggatccg	acacattaga	acaaagtcaa	ccaaagaaac	cagcatcaac	tcatgtagga	960
gcagagtcta	acacaataac	aacatcacaa	aatgtcgatg	atgaagtaga	tgacgtaatc	1020
atagtaccta	tatttgagaa	atccgaagaa	gattatgatg	atttaggaca	agtagtaaca	1080

<210> 56
 <211> 660
 <212> DNA
 <213> Plasmodium falciparum

<400> 56	
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ttaatagg	tc aaaaaagtag tgaaaacttt tatgaaaaga tattaaaaga tagtgatata 180
ttttataa	tg aatcttttac aaattttgta aaatctaaag ctgatgatat taattcattg 240
aatgatga	at caaaaaggaa gaaattagaa gaagatatta ataaattaaa aaaaacttta 300
cagttatc	at ttgatttata taataaatat aaattaaaat tagaaagatt atttgataaa 360
aagaaaac	ag ttggtaaata taaaatgcaa attaaaaaac ttactttatt aaaagaacaa 420
ttagaatc	aa aattgaattc acttaataac ccaaagcatg tattacaaaa cttttctggt 480
ttcttta	ac aaaaaaaaga agctgaaata gcagaaactg aaaacacatt agaaaacaca 540
aaaatatt	at tgaaacatta taaaggactt gttaaataat ataatggtga atcatctcca 600
ttaaaaac	tt taagtgaaga atcaattcaa acagaagata attatgccag tttagaaaac 660

<210> 57
 <211> 1080
 <212> DNA
 <213> Plasmodium falciparum

<400> 57	
caggataaac	ccgaagtaag tgcaaatgat gatacatcac attctacaaa tttgaataat 60
agttttaa	aat tatttgaaaa catattgagt cttggaaaaa acaaaaatat ataccaagaa 120
ttaatagg	tc aaaaaagtag tgaaaacttt tatgaaaaga tattaaaaga tagtgatata 180
ttttataa	tg aatcttttac aaattttgta aaatctaaag ctgatgatat taattcattg 240
aatgatga	at caaaaaggaa gaaattagaa gaagatatta ataaattaaa aaaaacttta 300
cagttatc	at ttgatttata taataaatat aaattaaaat tagaaagatt atttgataaa 360
aagaaaac	ag ttggtaaata taaaatgcaa attaaaaaac ttactttatt aaaagaacaa 420
ttagaatc	aa aattgaattc acttaataac ccaaagcatg tattacaaaa cttttctggt 480

ttctttaaca aaaaaaaaga agctgaaata gcagaaactg aaaacacatt agaaaacaca 540
aaaatattat tgaaacatta taaaggactt gttaaatatt ataatggtga atcatctcca 600
ttaaaaactt taagtgaaga atcaattcaa acagaagata attatgccag tttagaaaac 660
tttaaagtat taagtaaatt agaaggaaaa ttaaaggata atttaaattt agaaaagaaa 720
aaattatcat acttatcaag tggattacat catttaattg ctgaattaaa agaagtaata 780
aaaaataaaa attatacagg taattctcca agtgaaaata atacggatgt taacaatgca 840
ttagaatctt acaaaaaatt tctcccagaa ggaacagatg ttgcaacagt tgtaagtga 900
agtggatccg acacattaga acaaagtcaa ccaaagaaac cagcatcaac tcatgtagga 960
gcagagtcta acacaataac aacatcacia aatgtcgatg atgaagtaga tgacgtaatc 1020
atagtaccta tatttggaaga atccgaagaa gattatgatg atttaggaca agtactaaca 1080

<210> 58
<211> 1131
<212> DNA
<213> Plasmodium falciparum

<400> 58
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ttatatTTaa aaccttttagc aggtgtttat agaagtttaa aaaaacaatt agaaaataac 120
gttatgacat ttaatgttaa tgttaaggat atttttaaatt cacgatttaa taaacgtgaa 180
aatttcaaaa atgtttttaga atcagattta attccatata aagatttaac atcaagtaat 240
tatgttgtca aagatccata taaatttctt aataaagaaa aaagagataa attcttaagc 300
agttataatt atattaagga ttcaatagat acggatataa attttgcaaa tgatgttctt 360
ggatattata aaatattatc cgaaaaatat aaatcagatt tagattcaat taaaaaatat 420
atcaacgaca aacaaggatga aaatgagaaa taccttcctt ttttaacaa tattgagacc 480
ttatataaaa cagttaatga taaaattgat ttatttgtaa ttcatttaga agcaaaagtt 540
ctaaattata catatgagaa atcaaacgta gaagttaaaa taaaagaact taattactta 600
aaaacaattc aagacaaatt ggcagatttt aaaaaaata acaatttcgt tggaattgct 660
gatttatcaa cagattataa ccataataac ttattgacaa agttccttag tacagggtatg 720
gtttttgaaa atcttgctaa aaccgtttta tctaatttac ttgatggaaa cttgcaagggt 780
atgttaaaca tttcacaaca ccaatgcgta aaaaaacaat gtccacaaaa ttctggatgt 840
ttcagacatt tagatgaaag agaagaatgt aaatgtttat taaattacaa acaagaagggt 900
gataaatgtg ttgaaaatcc aaatcctact tgtaacgaaa ataatggtgg atgtgatgca 960
gatgccaaat gtaccgaaga agattcagggt agcaacggaa agaaaatcac atgtgaatgt 1020


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<210> 59
<211> 343
<212> DNA
<213> Plasmodium falciparum
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tttagatgaa	agagaagaat	gtaaatgttt	attaaattac	aaacaagaag	gtgataaatg					120
tgttgaaaat	ccaaatccta	cttgtaacga	aaataatggg	ggatgtgatg	cagatgccaa					180
atgtaccgaa	gaagattcag	gtagcaacgg	aaagaaaatc	acatgtgaat	gtactaaacc					240
tgattcttat	ccacttttcg	atgggtatttt	ctgcagttcc	tctaacttct	taggaatatc					300
attcttatta	atactcatgt	taatattata	cagtttcatt	taa						343

1